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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
POLLUTION REPORT

I. HEADING

DATE:	July 16, 2002	
SUBJECT:	Chicago Source Recovery Site Chicago, Illinois	
FROM:	Thomas Cook, OSC, U.S. EPA, Region 5	
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POLREP: INITIAL & FINAL

II. BACKGROUND

Site No: NA
CERCLIS No: NA
Response Authority: CERCLA
NPL Status: Non-NPL Completed
State Notification: NA
Start Date: July 13, 2002
Demobilization Date: July 13, 2002
Completion Date: July 13, 2002
Status of Action Memorandum: Pending Expedited

CHG?
ILN000508 CHG

III. SITE DESCRIPTION

A. Incident Category
Site Assessment and Removal Action

B. Site Location
1400 South Prairie
Chicago, Illinois

C. Preliminary Assessment/Site Inspection Results/Removal Activities

The Chicago Source site is a parking lot for the METRA Rail Service of Chicago. The site consists a gravel parking lot which is fenced on all sides. Immediately to the east is the METRA rail line, to the north and south are more lots and rail related operations, and to the east is a residential development.

On July 13, 2002, On-Scene Coordinator (OSC) Thomas Cook, U.S. EPA Health Physicist Jim Mitchell, along with Weston Solutions, Inc. (Weston) Superfund Technical Assessment and Response Team (START) contractor Greg Gehrig, investigated the site focusing on the detected radiation and removal of the radiation source. Also present at the time of the investigation were Emergency Response and Restoration Service (ERRS) Contractor Furgeson Harbor with Response Manager Tom Rhinebolt and three laborers, Sara Lopez and John Cardinal of the Federal Bureau of Investigation (FBI), Gerald Gels of Signal Corporation Emergency Response Team (ERT), Jim Ursic of U.S. EPA Field Services Section Emergency Response Branch . Representatives of METRA and their consultant, Camp, Dresser, and McGee, were also present. The radiation source was previously identified to be a radium-226

(radium) point source near the surface. The exact nature and discovery of the source was unknown at the time of this POLREP.

At 0730 a health and safety briefing was held by U.S. EPA Mitchell. A perimeter around the source was established. with a background exposure rate reading of 6 micro-roentgens per hour (μR/hr) at that perimeter. U.S. EPA Ursic performed a survey using an EM-61 High Sensitivity Metal Detector to identify whether a metallic object may be associated with the radiation source and to possibly approximate source depth. The metal survey showed a high background due to power lines in close proximity, but showed no metallic objects associated with the source. A mini bobcat excavator was then brought in to carefully unearth the source. This activity was performed with U.S. EPA Mitchell overseeing operations. The source was located at approximately 1 foot below the ground surface, which was identified as a medical application needle filled with radium salt. The source was later determined to be a 8.2 milli-curie source. The needle was secured in a lead pig, which was further secured in a 15-gallon salvage drum, which was further secured in a 55-gallon salvage drum. Once the needle was removed, no readings above area background were detected in the excavation area. Three additional soil samples were collected from the excavation surrounding the needle for later analysis to confirm no residual radium contamination was present. The 55 gallon drum with the source inside was surveyed and placarded according to DOT regulations. The secured source and samples were transported to Argonne National Laboratory, Argonne, Illinois by U.S. EPA Mitchell and ERRS. Real-time electronic dosimeters were provided to responders entering the exclusion zone to monitor individual external exposures. The average external exposure recorded and received by responders was below 1.0 milli-rem.

Once at Argonne, The source activity was accurately determined to be 8.2 milli-curies. Eventually, the radium source will be disposed of at the Hanford Nuclear Reservation in Richland, Washington. The results of the three samples sent to Argonne for anaylsis were determined to be less than 1 pico-curie/gram, which is consistent with area radium background concentrations and confirmed that no radium was released to the environment.

D. Description Of Threat

The 8.2 milli-curie source posed a radiation threat to general public. If the needle were broken or unearthed, radioactive salt dust could have released into the atmosphere or cause a high external exposure which could pose a threat to human populations via ingestion, inhalation, and dermal exposure pathways. A radioactive source of that strength and type is a known carcinogen and mutagen.

V. COST INFORMATION

ERRS

Current D.O. Ceiling	$ 15,000.00
Costs through 7/14/02	$ 5,000.00*

START

TDD Ceiling	$ 8,400.00
Costs through 7/14/02	$ 1,000.00*

*START and ERRS costs estimated.